is even this less than standard "public service" really free? Although admittedly a marvel of creative medical marketing, in those instances where bruits, transient ischemic attacks, or actual strokes bring the patient to my attention for further evaluation, I often find that to obtain the free examination the patient did sign something, and that something often turns out to be a Medicare form or a private insurance claim. From what I am able to learn from these patients, there is no serious attempt to collect the co-insurance as required by law, and since there is no explanation of benefits, the patient gratefully and innocently accepts the service as a free offering.

Another questionable game involves groups of medical vultures who do employ physicians who do physical examinations but pollute the effort by demanding scores of exotic blood tests, sophisticated scans, and myriads of radiographs costing thousand of dollars—diagnostic tests that most well-trained physicians would have great difficulty in relating either to a patient's complaint or diagnosis.

Even when the truth is pointed out, some patients reason, "Well, why not? I've paid into my insurance for years and never collected a cent." Perhaps if the medical well were bottomless, we should indeed do everything to everybody regardless of need—routine total body magnetic resonance imaging scans, routine serum folate studies, and two-dimensional echocardiograms on the population at large.

But the other side of the coin, as you know and the public is learning, is that for every patient who has a thousand dollars' worth of needless medical exploitation, another far sicker patient may be deprived of a badly needed hospital bed or a necessary physician visit because the fund of available medical dollars is limited, whether it comes from an insurance company, the federal government, or a private pocket.

The unscrupulous drain on already scarce medical resources is one of the factors that is already provoking supporters of medical rationing like Colorado's former governor to advocate eliminating hip transplants, pacemakers, kidney dialysis, and open heart surgery for "those who are destined to die." Indeed, we are all destined to die.

Legitimate, honest, caring physicians and their elected leaders must find some way to plug these scandalous leaks in the hull of our medical vessel or we will all drown—patient, doctor, the system, and all.

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EPOH-ESLAF?

To THE EDITOR: The January issue of the journal contained a vignette on "The Medical Uses of Hope."[1] The author overheard two researchers discussing chemotherapy results at an oncology meeting. The first could not understand the other's 74% response rate in lung cancer, when his own result with EPOH (Etoposide, Platinol, Oncovin, and Hydroxyurea), with the same patient selection, ingredients, and drug schedules, was only 22%. The second researcher's key was the addition of HOPE—another acronym for the same drugs. The author concluded that he, too, would give some HOPE to his patients.

Since there is minimal prolongation of life from chemotherapy of non-small cell lung cancer, and response rates reported usually vary between 10% and 30%, I wondered if something might be wrong with this story. Did the writer perceive the remarks incorrectly? Was something wrong with the second researcher's study design? Did he misperceive or incorrectly report his results? Were they a statistical blip out of a hundred studies with disappointing results? Since hydroxyurea is not an effective drug for lung cancer, was the article fiction?

I reviewed the abstracts for the past three years for the American Society of Clinical Oncology, the meeting where the conversation is reported to have occurred. I did not find a study with a 74% response rate. Nor did I find a combination with hydroxyurea.

I therefore decided to invent my own chemotherapy schedule by combining Elspar, simustine, leukovorin, amethopterin, and flurouracil (ESLAF), which I claimed had a 40% response rate in lung cancer. When combined with EPOH (EPOH-ESLAF), I claimed an 80% response rate. The only problem was that I give my patients full informed consent. I could not substantiate the claim. So, then I wondered if the editors of the journal would print this letter.

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Fluoride Contamination

To THE EDITOR: I would like to call your readers' attention to two statements that appeared in an article by Russell and colleagues in the November 1987 issue.[1]

In their discussion of fluoride as a naturally occurring contaminant in drinking water, the authors state that fluoride "has great public health benefit in preventing dental caries at dosages of 0.5 to 0.7 ppm in water." This citation is attributed to an article in *Pediatrics.*[2] In point of fact, the *Pediatrics* article makes no such statement. Rather, the article states that ideally, "The fluoride content of the local water supply in all communities should be adjusted to a level between 0.7 and 1.0 ppm." (The intent of the range is to allow for the fact that in areas with higher mean temperatures, more water is consumed so the fluoride concentration is adjusted downward.) This range is recommended by the American Academy of Pediatrics, the American Dental Association, the US Public Health Service, and the California Department of Health Services.

The authors also stated that "skeletal fluorosis has been observed when drinking water containing only 3 ppm is used (skeletal fluorosis becomes crippling when water levels reach 20 to 40 ppm)." This quote is attributed to a chapter on anions in the 5th edition of Goodman and Gilman's *The Pharmacologic Basis of Therapeutics.* Once again, there is no such statement in this chapter. In fact, the only mention of skeletal fluorosis in this chapter is reference to the fact that in its severest form it is a disabling disease and is designated as crippling fluorosis. The reference for this statement[3] was a study of endemic fluorosis in an area of India that had fluoride concentrations that ranged from less than 1 ppm to 16.2 ppm. There was no association of any individual case of skeletal fluorosis with any particular fluoride concentration. Further, the area was said to be one of extremely high temperatures, and the individuals studied were farmers who did strenuous work. The authors speculated that the water intake of these individuals averaged 5 liters daily.

In a later article, Singh and Jolly conclude that "The histopathological changes of endemic fluorosis occur only at

higher levels of intake than 1-4 ppm."[4] They further state that crippling fluorosis ". . . results from the continuous exposure of an individual to 20-80 mg of fluoride ion daily over a period of 10-20 years. Such heavy exposure is associated with a level of at least 10 ppm in the drinking water supply." These fluoride levels do not exist in the US, and there have been no reported cases of cripping fluorosis in the United States.

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Mr Russell and Drs Jackson and Spath respond

TO THE EDITOR: We thank Dr Isman for his response to our article and will clarify our comments on the hazards of excess fluoride in drinking water.

First, we erred in our paraphrasing of the American Academy of Pediatrics Committee on Nutrition statement on fluoride supplementation. The committee reported: "The optimal systemic fluoride dose to prevent caries appears to be .05 to .07 mg per kg per day. The narrowness of the therapeutic range is emphasized by the fact that mild fluorosis has been seen with oral intakes greater than .1 mg per kg per day." Note that this is a dose per bodily weight, not per liter of water. Dr Isman has correctly quoted the ideal concentration in public water supplies as 0.7 to 1.0 ppm (mg/L).

Second, we evidently selected the wrong reference from a much longer staff report when we stated that skeletal fluorosis has been observed at 3 ppm in drinking water. A recent literature survey reveals that many authorities reported that skeletal fluorosis may occur at levels above 3 ppm or above 4 ppm, though bone changes can be detected at lower levels. For example, the World Health Organization (WHO) stated, "Skeletal fluorosis has been observed in persons when water contains more than 3-6 mg of fluoride per liter depending on intake from other sources."[1] It is well recognized that the total fluoride intake is affected by factors such as climatic conditions, amount of drinking water consumed, fluoride intake from sources other than drinking water, food habits, and malnutrition, which would influence the development of fluorosis.[2] A second WHO report noted that in tropical countries where dietary intake of fluoride from other sources is high, "Relatively marked osteofluorotic symptoms were connected with fluoride levels as low as 1-3 mg/litre drinking water."[2] The National Academy of Sciences stated that "Skeletal fluorosis has been observed with use of water containing more than 3 mg/liter,"[3] and the Environmental Protection Agency reported that "Bone changes (increased bone density; calcification of sacrospinous and sacrotuberous ligaments) described in this study [a study of bone density in Texas and Oklahoma] were found when the drinking water contained 4-8 mg/L."[4] A Finnish study of bones from cadavers reported histomorphometric bone changes at 1.5 ppm.[5]

WHO has stated that daily intake exceeding 8 mg (equivalent to 4 mg per liter in water at 2 liters a day consumption) is suggested to be harmful in adults. WHO recommends an upper limit of 1.5 mg per liter in drinking water. A recent study in Senegal, however, found that in a hot dry climate where water intake is high, the WHO limits did not protect adequately against crippling skeletal fluorosis or dental fluorosis, and that for such climates the limits should be set lower.[6]

Our concern with the Environmental Protection Agency's raising of the federal primary drinking water standard from a maximum of 2.4 to 4 mg per liter is that dental mottling could occur in children, especially if the secondary (voluntary) standard of 2 mg per liter is not adhered to. The National Research Council has stated that dental mottling, depending on temperature, "may occur to an objectionable degree with fluoride concentrations . . . of only 0.8-1.6 mg/liter [ppm]."[3] California has therefore retained the earlier primary limits ranging from 1.4 mg per liter in hotter climates to 2.4 mg per liter in cooler climates to try to prevent objectionable and potentially psychologically damaging mottling and pitting of the teeth of children and adolescents.

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Pediatric Liver Cancers

TO THE EDITOR: The February 1988 article by Tong and Govindarajan prompted me to write.

During the years 1965 to 1970, I worked in a mission hospital in Kenya, Africa. Our 120-bed hospital treated very many cases of acute hepatitis with jaundice. Also, several times each year we admitted a small child with liver cancer. The livers were firm and multinodular. No biopsies were done.

Since it is now known that hepatitis B is common in Africa, it is possible that these malignant lesions were due to hepatitis B virus. A long-term study in Africa should add much to our knowledge of the epidemiology of these pediatric liver cancers.

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